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Shaping Industry

APPLICATION OF SMART MANUFACTURING IN DIE CASTING INDUSTRY: IMPROVED DIAGNOSTIC, DATA ANALYSIS AND ENERGY MONITOR WITH ITALPRESSE GAUSS MACHINES.

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Italpresse Gauss is committed to innovation
by Industry 4.0 and Smart manufacturing

What is Industry 4.0 to us:

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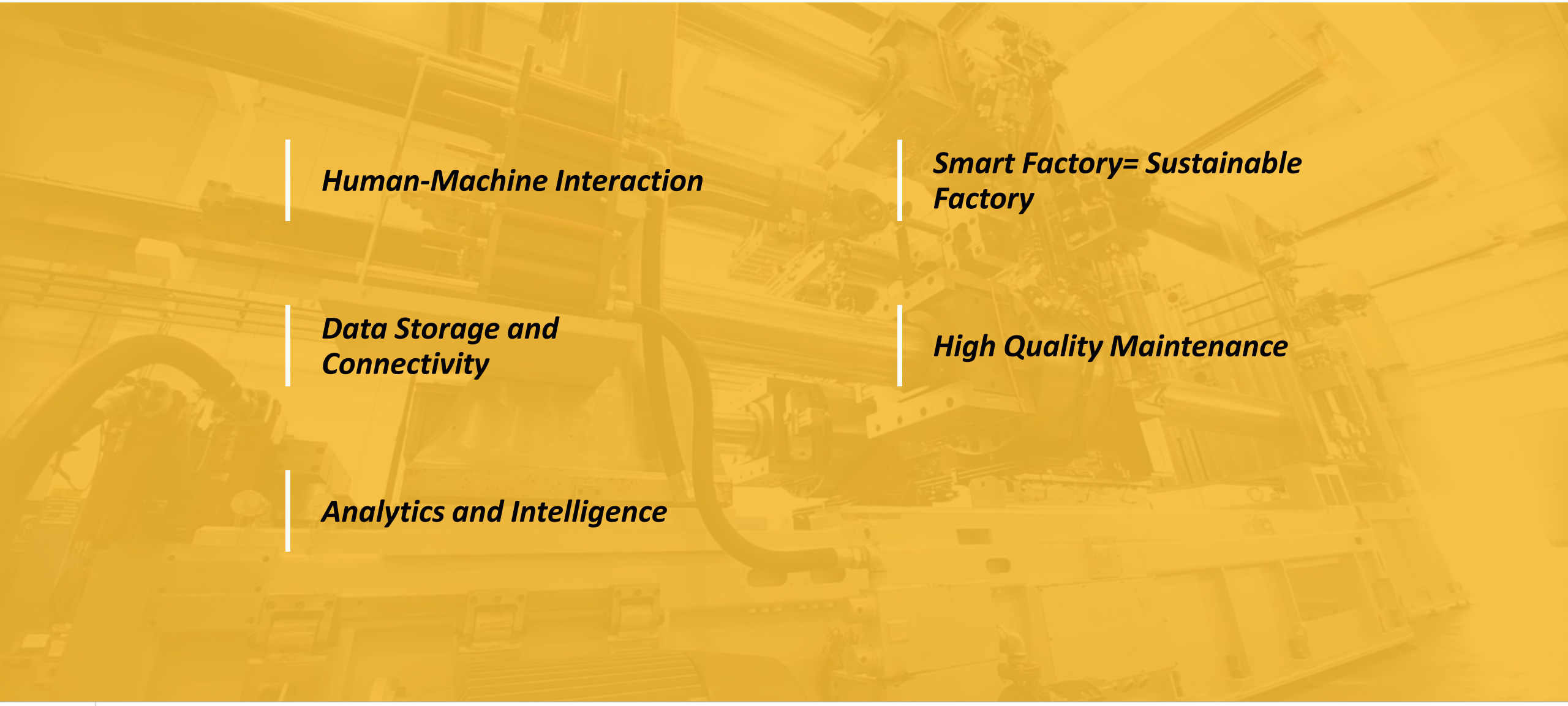

Human-Machine Interaction

Smart Factory= Sustainable Factory

Data Storage and Connectivity

High Quality Maintenance

Analytics and Intelligence

Human Machine Interaction

HMe DIAGNOSTICS, CONTROL AND MONITORING

HMe

HMe is user-friendly

HMe is a powerful and smart tool:

- machine supervision
- real-time storage of large amounts of data
- intuitive and user-friendly interface.

HMe: a USER FRIENDLY Interface

Contemporary and innovative touch screen

Increased quality of data representation

Mindful use of colors and graphics

High definition of the curve

Horizontal browsing of the menu with an easy access to the information

Data Storage and Connectivity

HMe: Easy Access and Connectivity

The storage database is based on SQL.

The application is installed on an industrial PC, touch screen, based on Windows 7.

It allows the transfer of the data to CLOUD COMPUNTING Technology .

The system uses marketproof hardware:

- PLC SIEMENS 7 with remote I/O

Safety is managed with Pilz

- Pnoz–Multi connected to PLC by Profibus.

HMe: A Virtually Unlimited Database

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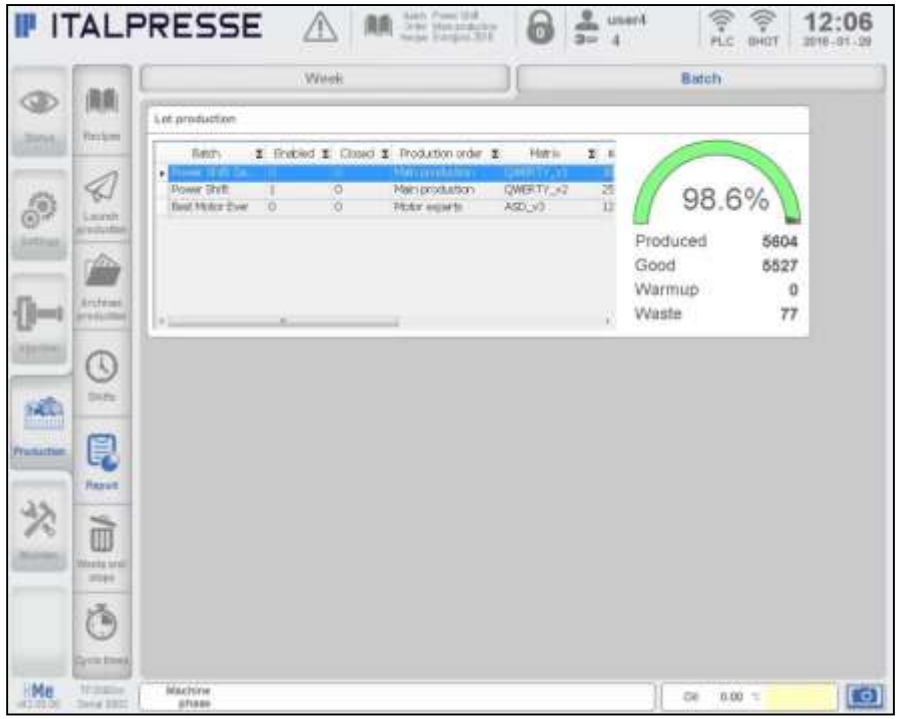
- Daily production reports, weekly reports and batch records
- HMe store alarms and events for at least one year, record scrap parts and machine stops.
- All the setting modifications are registered in a logbook with date, time and name of the operator that has performed the changes.



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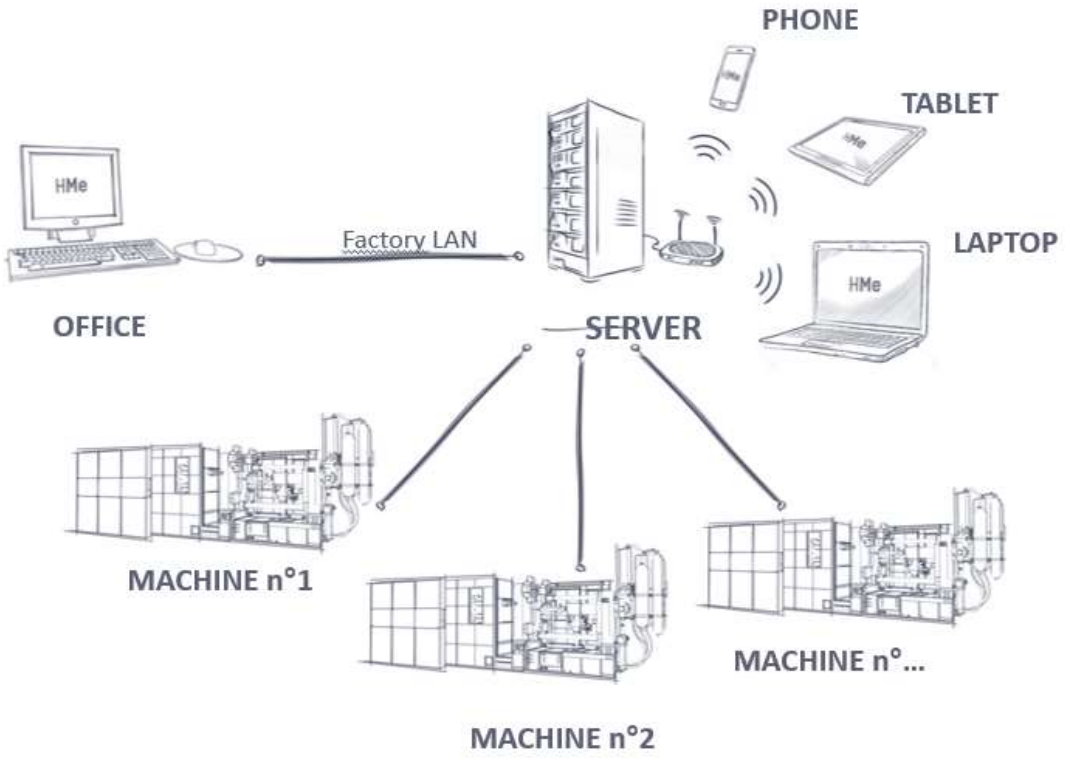
Any device with a web browser can access to the HMe without any installation process.

- All the machines are connected to a server via Ethernet.
- The server can be connected to the company network.
- All the devices with a web browser can enable a remote connection to the machines through the company network.
- If the server is connected to the Internet, it is possible to access to the HMe also from outside of the company through the telephone network.

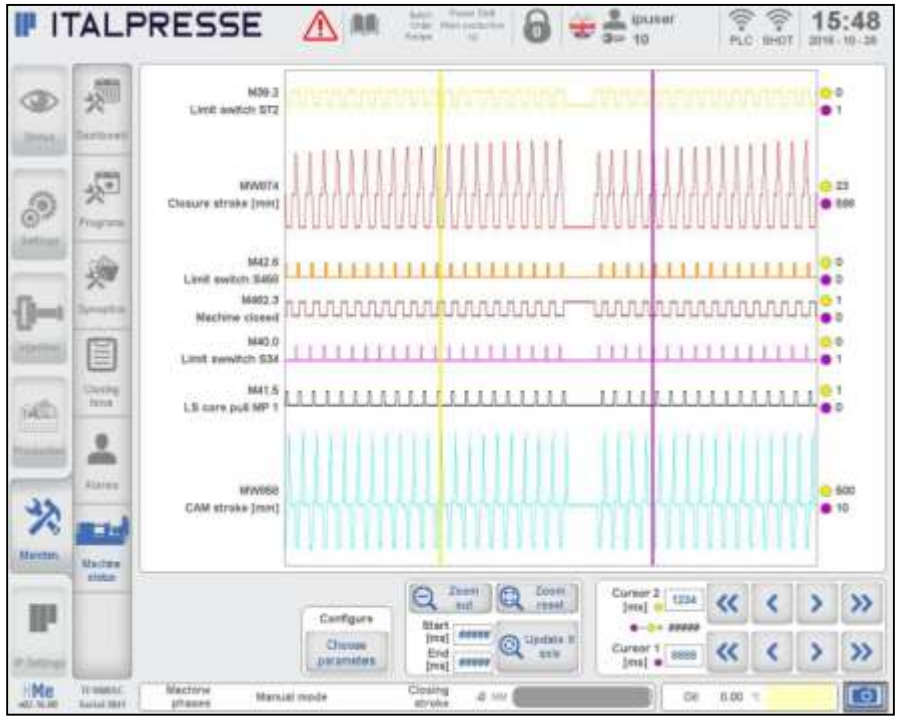


Analytics And Intelligence

Predictive Diagnostic

Historical Data means:

- easy understanding of alarm causes
- reduction of the machine stops time



HMe: A Single Database for the Cell Data

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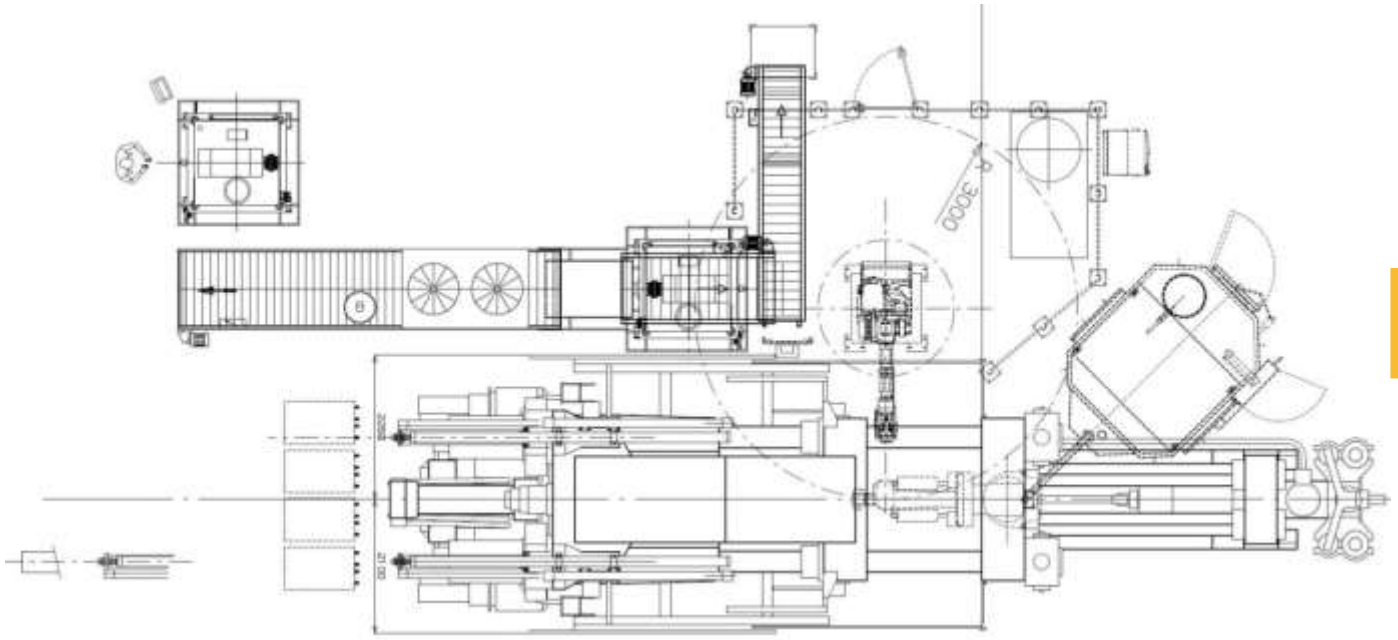
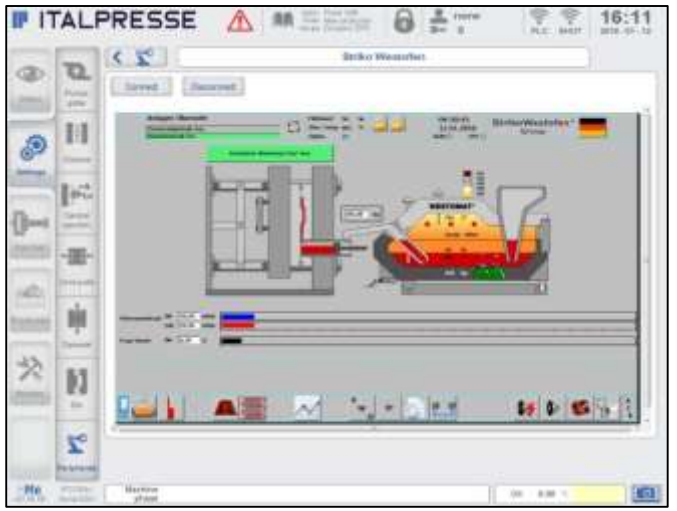
All data of the complete cell functioning can be centralized in a single database.





HMe Factory Connectivity

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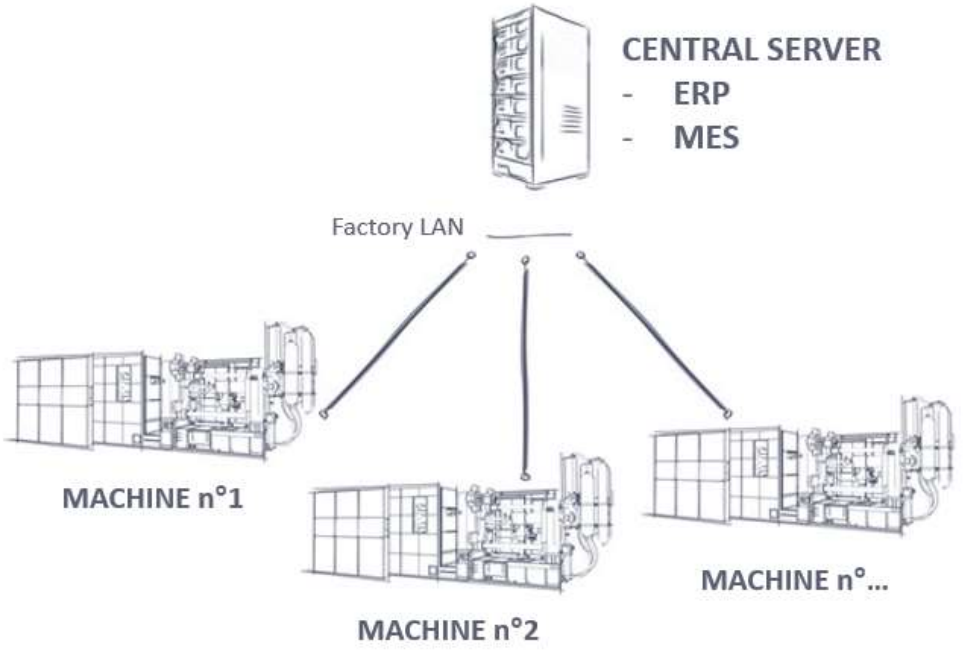
Die settings and traceability settings deployed from central server.

- All the machines can be connected to a central server via company network.
- On the server can run software for production managing like ERP (Enterprise Resource Planning) or MES (Manufacturing Execution System).
- Server deploys settings on the machine when change of production is needed.
- (+) Complete control of production planning.

Real time traceability reports

- Server can collect data of production at any time from any machine.
- (+) Complete traceability of the cast.



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Smart Factory= Sustainable Factory

Energy Saving Report

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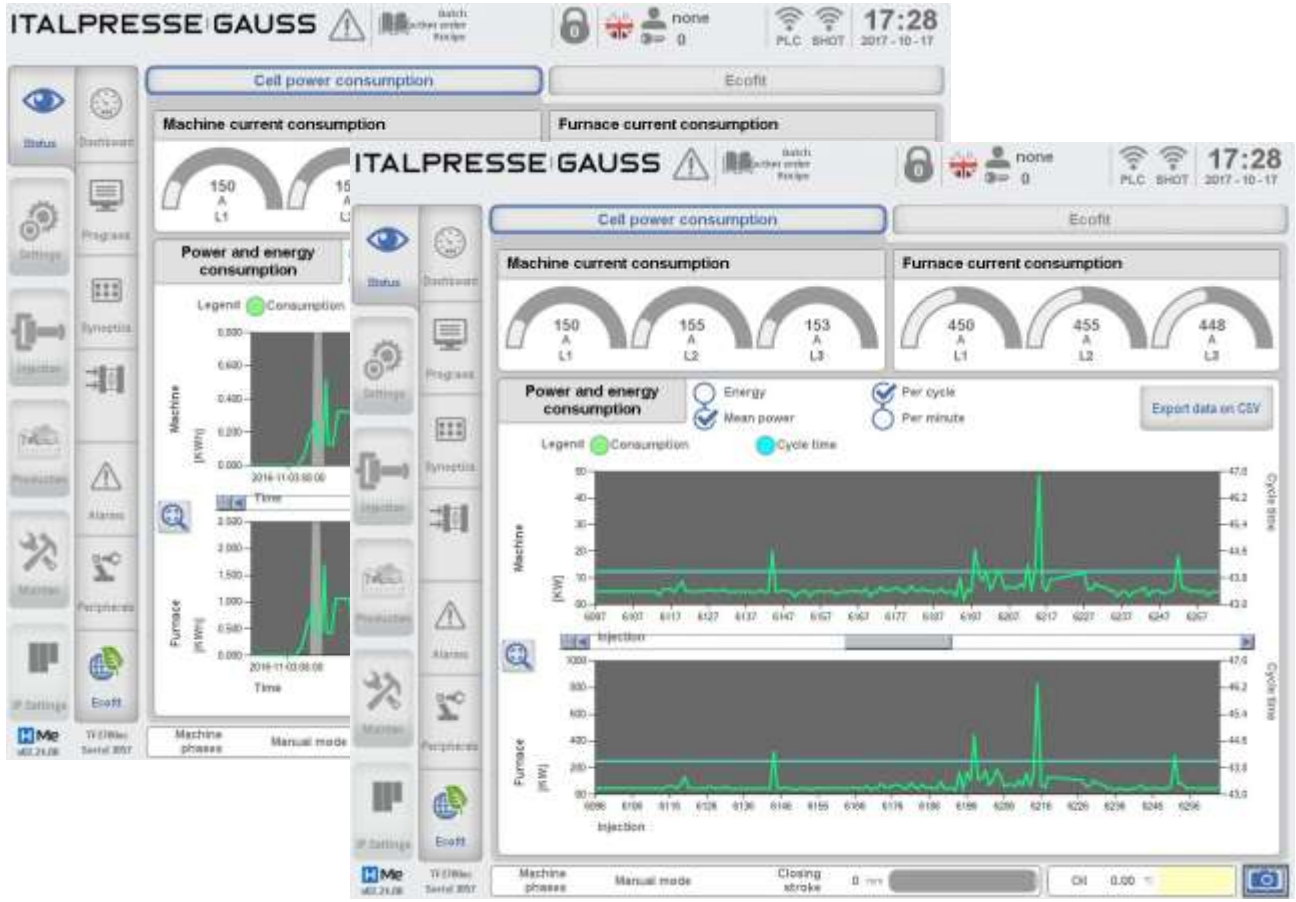
- Careful ENERGY consumption monitoring
- HMe collect power consumption data of the whole cell.
- Data are stored in HMe database and allow an analysis of energy consumption of the cell.



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Case study on a IP 1100

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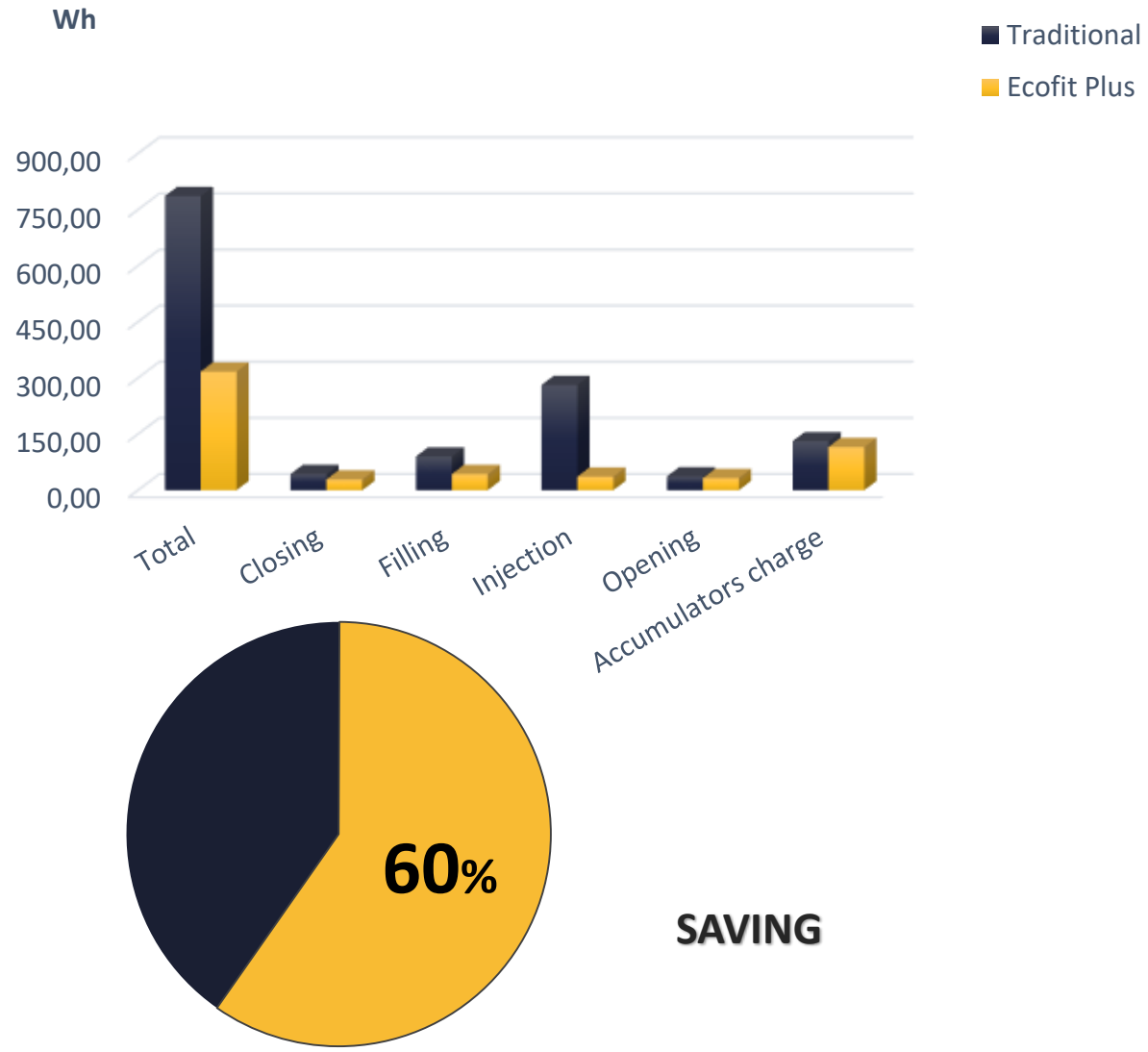
- Max platen stroke: 1054 mm.
- Pump motor: IE3 pump motors with 2 x 40 kW low inertia.
- Frequency converter DTC ACS 880 control + Pressure Feedback.
- Continuous monitoring with Power Monitoring Device type Siemens Sentron PAC 3200, integrated into the HMI
- Test cycle: 55,7sec (according to VDMA 24499)



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EASY Maintenance

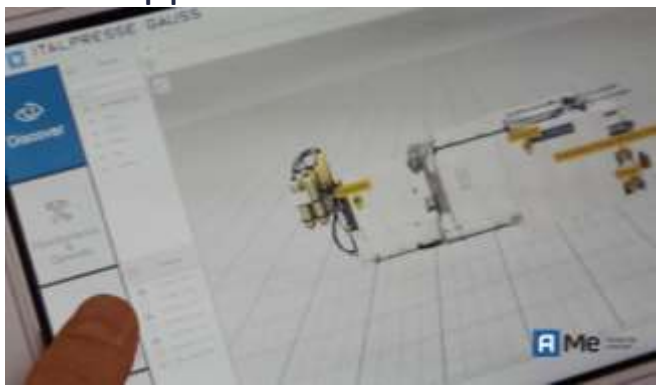
AMe INTERACTIVE ASSISTANT

AMe Interactive Assistant

The AMe Interactive Assistant boosts maintenance efficiency and speed of trouble-shooting, by enabling maintenance workers on the ground to establish a live video connection with an Italpresse expert, access drawings and machine documentation, and follow maintenance guides on screen - all via a tablet.

How does AMe Interactive Assistant work?

ITALPRESSE|GAUSS has teamed up with industrial software expert Wonderware (Schneider Electric Group) to develop a powerful app for live remote maintenance and service assistance:



MACHINE LEARN AND DISCOVER

Virtual 3D shape of the machine is available for an interactive experience which allow to discover where components are located from 3D you can access to manuals and documentation.

MAINTENANCE

Requested maintenances are detected from HMe and highlighted in virtual reality in AMe.

Maintenance operations are guided through step by step augmented reality procedures.

SOS VIDEO CALL

Video call is available through the SOS menu; technical support engineers could guide to troubleshooting.

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